

CLAIMS

What is claimed is:

- Sub 17
1
2
3
1. A method for performing motion estimation comprising:
receiving a stream of data comprising at least a predicted frame and an anchor frame; and
utilizing even-parity field prediction to predict content of each of a plurality of fields of
the predicted frame from corresponding fields of the anchor frame.
- 1 2. The method of claim 1, wherein the content of each of the plurality of fields of the
2 predicted frame are predicted merely from a corresponding field of the plurality of fields
3 comprising the anchor frame, scaled by a dynamically determined motion vector.
- 1 3. The method of claim 2, wherein the motion vector is dynamically determined by
2 measuring activity within each of the plurality of fields of the anchor frame.
- 1 4. The method of claim 1, wherein the predicted frame either precedes or supersedes the
2 anchor frame based, at least in part, on the predicted frame type.
- 1 5. The method of claim 1, wherein each of the predicted and anchor frames contain
2 interlaced video content or progressive video content.
- 1 6. The method of claim 5, wherein a first field of the predicted frame and the anchor frame
2 comprises even-field content of the interlaced video content, and a second field of the predicted
3 frame and the anchor frame comprises odd-field content of the interlaced video content.

0327445-032299

1 7. The method of claim 5, wherein a first field of the predicted frame comprises even-field
2 content of the interlaced video content and a first field of the anchor frame comprises odd-field
3 content of the interlaced video content.

1 8. The method of claim 5, wherein a first field of the predicted frame comprises odd-field
2 content of the interlaced video content and a first field of the anchor frame comprises even-field
3 content of the interlaced video content.

1 9. The method of claim 1, wherein one or more motion estimation vectors are generated for
2 each of the plurality of fields of the anchor frame by measuring a sum of absolute differences.

1 10. The method of claim 1, wherein even-field interlaced video content of the predicted
2 frame is predicted from even-field interlaced video content of the anchor frame, and odd-field
3 interlaced video content of the predicted frame is predicted from odd-field interlaced video
4 content of the anchor frame.

1 11. The method of claim 10, wherein the even-field interlaced video content of the predicted
2 frame is predicted from the even-field interlaced video content of the anchor frame and a motion
3 vector, wherein the motion vector is determined by measuring a sum of absolute differences
4 within the even-field interlaced video content of the anchor frame.

Sub 17
827
C2 2
12. An apparatus comprising:
a motion estimation circuit to receive a stream of data comprising at least an anchor frame
3 and a predicted frame, and to utilize even-parity field prediction to predict content of each of a
4 plurality of fields of the predicted frame from corresponding fields of the anchor frame.

09274156-032299

1 13. The apparatus of claim 12, wherein the anchor frame used either precede or supersede the
2 predicted frame depending on predicted frame type.

1 14. The apparatus of claim 12, wherein the motion estimation circuit measures activity
2 content within each of the plurality of fields of the anchor frame to generate a corresponding
3 plurality of motion vectors.

1 15. The apparatus of claim 14, wherein the motion estimation circuit predicts content of a
2 first in the predicted frame from content of a corresponding first field in the anchor frame and a
3 first field motion vector, and predicts content of a second field in the predicted frame from a
4 corresponding second field and a second field motion vector.

1 16. The apparatus of claim 12, wherein the predicted frame and anchor frame are comprised
2 of interlaced video content, wherein a first field of each of the predicted frame and the anchor
3 frame contain even-field interlaced video content, while a second field of each of the predicted
4 frame and the anchor frame contain odd-field interlaced video content.

1 17. The apparatus of claim 12, wherein motion estimation circuit generates a motion vector
2 for each of a first and second field of the predicted frame by measuring a sum of absolute activity
3 differences in a corresponding first and second field of the anchor frame.

SUBA
3

1 18. A storage medium comprising a plurality of executable instructions which, when
2 executed, causes an executing processor to implement a motion estimation function to utilize
3 even-parity field prediction to predict content of each of a plurality of fields of a predicted frame
4 from corresponding fields of one or more anchor frames.

